

Notice of Allowability

Application No.

09/401,132

Examiner

Allen Wong

Applicant(s)

LEE ET AL.

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/15/07.
2. ☒ The allowed claim(s) is/are 22-26, 28-30, 32-36, 38-49 and 51-64, renumbered as claims 1-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

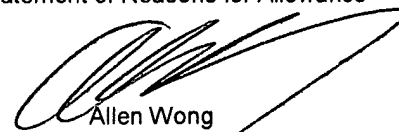
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Allen Wong
Primary Examiner
Art Unit 2621

DETAILED ACTION

Allowable Subject Matter

1. Claims 22-26, 28-30, 32-36, 38-49 and 51-64 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art does not specifically disclose the combination of limitations of claim 29: an apparatus for encoding frames of an image sequence, each frame comprising a plurality of objects, said apparatus comprising: a motion compensator for generating a predicted image of a current frame; a transform module for applying a transformation to a difference signal between the current frame and said predicted image, where said transformation produces a plurality of coefficients; a quantizer for quantizing said plurality of coefficients with at least one quantizer scale for each object in the frame; and a controller for generating the at least one quantizer scale for each of said plurality of objects in accordance with a target object bit rate, wherein said quantizer scale(s) provide coarser and/or fewer allowed quantization values for a high frequency subband of said image sequence than for a low frequency subband of said image sequence, selectively adjusting said at least one quantizer scale for the current frame in response to said target object bit rate for each of the plurality of objects, and determining said target object bit rate from a target frame bit rate, T_{frame} , in accordance with the formula: $V_i = K_i \times T_{\text{frame}}$ where V_i is a target object bit rate for each object, and K_i is proportional to an average pixel value for the object. Claims 22 and 32 are patentable for similar reasons as claim 29. Also, see pages 2-16 of applicant's remarks and the

Affadavit/Declaration under 37 C.F.R.1.132 submitted on 10/15/07 for further explanations on the reasons of patentability for claims 22, 29 and 32.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm Flextime.

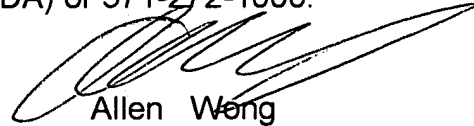
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Allen Wong', is written over the printed name.

Allen Wong
Primary Examiner
Art Unit 2621

AW
1/3/08